Impact of Ownership structure and dividend policy on asymmetric information: evidence from NASDAQ index

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***Abstract*—**This paper seeks to investigate the relation among Ownership structure, dividend policy and asymmetric information under the governance theory. A panel data analysis is performed to examine the existence of a relationship between variables. Based on sampling of listed companies from NASDAQ index were selected and examined during 2003 to 2014 by using panel cointegration. Results show that the quality of governance should have an impact on asymmetry of information.

***Keywords*—** Ownership structure, dividend policy, asymmetric information, governance, Cointegration.

***Résumé*-**Ce document cherche à étudier la relation entre la structure de propriété, la politique de dividendes et l'information asymétrique sous la théorie de la gouvernance. Une analyse des données du panel est effectuée pour examiner l'existence d'une relation entre les variables. Basé sur l'échantillonnage des sociétés cotées de l'indice NASDAQ ont été sélectionnés et examinés au cours de 2003 à 2014 en utilisant la cointegration panneau. Les résultats montrent que la qualité de la gouvernance devrait avoir un impact sur l'asymétrie de l'information.
Mots-clés - Structure de propriété, politique de dividendes, information asymétrique, gouvernance, Cointegration.

I. INTRODUCTION

Tthe main goal of governance is to provide checks and balances between shareholders and managers and thus to reduce agency problems which characterise financial transactions. The fundamental premise of this study is that there ought to be an economic association between corporate governance quality and asymmetric information. This study provides empirical evidence on the association between governance quality and asymmetric information. Review of the literature provides a theoretical framework on corporate governance and asymmetric information. To test whether corporate governance practices determine the asymmetric information in the companies listed in the in NASDAQ index, we compose quantitative measures on the quality of the corporate governance for these companies, measured by two mechanisms: ownership structure and dividend policy.

II. BACKGROUND

Information asymmetry underscores several key concepts in finance and accounting. In corporate finance, information asymmetry is commonly assumed to describe the relationship between corporate insiders and outside investors in the market. In financial accounting, information asymmetry is related to transparency. For example, various authors such as Verrecchia (2001) and Bushman et al (2004) show that voluntary corporate disclosure reduces

information asymmetry and improves general transparency, and thereby potentially enhances corporate valuation although it may also entail risk of disclosing useful information to competitors. And in market microstructure, information asymmetry faced by market makers may increase bid-ask spread because of the cost of adverse selection.

Lot of studies argue that one source of information asymmetry is corporate ownership structure in line with some studies that have related bid-ask spread to corporate insider and block ownership. Because the market may perceive insiders to have superior access to a firm's private information, bid-ask spread may rise for all, suggesting a positive relationship between insider ownership and bid-ask spread (Chiang and Venkatesh, 1988). With regard to the effect of a controlling shareholder on agency costs of the firm, there are two competing effects (Morck et al., 1988). On the one hand, a controlling shareholder is more likely to monitor management actions, limit the extent of agency costs through incentive alignment between managers and outside investors, and reduce information asymmetry (Hope et al., 2009). On the other hand, a controlling shareholder can take advantage of controlling position, direct private benefits for personal consumption (which is the typical expropriation of minority shareholders and potentially creditors), and exacerbate information problems by increasing information asymmetry [1]

in the other side Dividend policy decisions have been widely studied in the modern financial literature; they are an important component of the corporate policy. The dividend policy depends on many factors such as the firm's financial performance and liquidity position, its position in its life cycle, taxation and investment opportunities among others. Various dividend policy theories have emerged [2]

The agency theory points that dividends may mitigate agency costs by distributing free cash flows that otherwise would be spent on unprofitable projects by the management (Jensen,1986) [3]. It is argued that dividends expose firms to more frequent scrutiny by the capital markets as dividend payout increase the likelihood that a firm has to issue new common stock more often (Easterbrook, 1984) [4]. On the other hand, scrutiny by the markets helps alleviate opportunistic management behavior, and, thus, agency costs. Agency costs, in turn, are related to the strength of shareholder rights and they are associated with corporate governance (Gompers, Ishii, and Metrick 2003). Furthermore, agency theory suggests that shareholders may prefer dividends, particularly when they fear expropriation by insiders. This suggests that dividend payouts are determined by the strength of corporate governance.

III. METHODOLOGY

A. DATA

This paper examines the impact of Ownership structure and dividend policy adopted by firms listed in NASDAQ index during the period between 2003 to 2014 on the asymmetry of information, for this reason a set of cross-section time series data was used in this study for the companies listed in NASDAQ index, variables are aproxy by:

- Ownership structure

We define the Ownership structure by:

$$\frac{Number\ of\ stocks\ owned\ by\ 5\ biggest\ owner}{Total\ number\ of\ shares\ outstanding\ by\ firm}$$

- dividend policy

We define the Ownership structure by:

$$\frac{dividend\ per\ share}{Stock\ Price}$$

- Earnings persistence

We define the Earnings persistence by:

$$EARP_{i,t} = \lambda_{01} + \lambda_{11} EARP_{i,t-1} + \varepsilon_{i,t}$$

B. MODEL

In this section, we document the effect of ownership structure and dividend policy adopted by firms on the asymmetric information. More specifically, we will look at how the two mechanisms of corporate governance relate to asymmetric information. A panel data analysis is performed in this study and the Hausman test (1978) is performed to find out whether to use fixed effects or random effects while estimating panel data. The Hausman test fundamentally tests the null hypothesis that the individual effects are not correlated with the explanatory variables. The fixed effects model is used if the null hypothesis is rejected since in this case biased estimators will be generated by a random effect model. After that we will study the stationarity of variables and the cointegration relationship among variables and finally the causality between them.

The empirical model developed is as follows:

$$EARP_{i,t} = \alpha + \beta_1 OWNS_{i,t} + \beta_2 DPS_{i,t} + \mu_i + \gamma_t + \varepsilon_{i,t}$$

Where:

$EARP_{i,t}$: Profit of the i th firm at t time

$OWNS_{i,t}$: Ownership structure of the i th firm at t time

$DPS_{i,t}$: Divided Per Share of the i th firm at time t

μ_i: Represent cross-section effects

γ_t : Represent time effects

α: is the intercept and β_i is the regression coefficient of i th variable and $\varepsilon_{i,t}$ is the composite error term

The subscript i represents the different firms and t represents the different years

The test of Hausman indicates that the fixed effects model is the appropriate model of our data. The results of the above test are reported in Table I

Table I: test of HAUSLAN

test	Tabulate value of χ^2	critical value of χ^2	p-value
HAUSMAN	5.9915	6.0029	0.0497

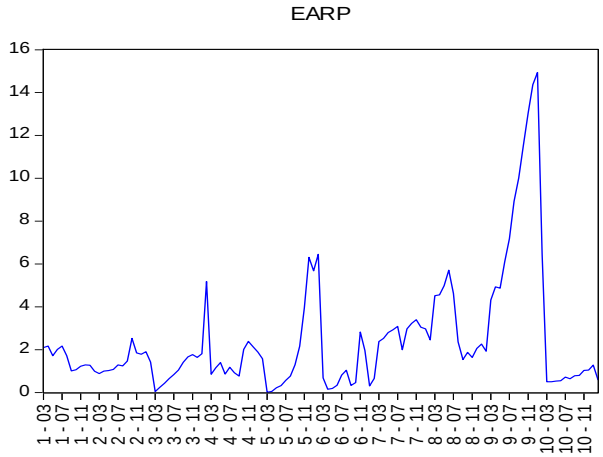
- Unit root tests and stationarity:

Before testing the existence of long relationship between variables we shall check the unit roots of series in order to judge the stationarity of series. The results of unit root and stationarity according to test of (LLC: 2002) [5]and (IPS: 2003) [6] are reported in Table II

Table II: test of unit root and stationarity

variable	LLC		IPS	
	Parameter of test	p-value	Parameter of test	p-value
EARP	-0.95518	0.1697	0.56904	0.7153
DPS	-1.32498	0.0926	-0.51268	0.3041
OWNS	-0.42169	0.3366	-4.79820	0.0000

Results show that series are not stationary at level, thus we move to the first difference


EARP
16
14
12
10
8
6
4
2
0
1 - 03
1 - 07
1 - 11
2 - 03
2 - 07
2 - 11
3 - 03
3 - 07
3 - 11
4 - 03
4 - 07
4 - 11
5 - 03
5 - 07
5 - 11
6 - 03
6 - 07
6 - 11
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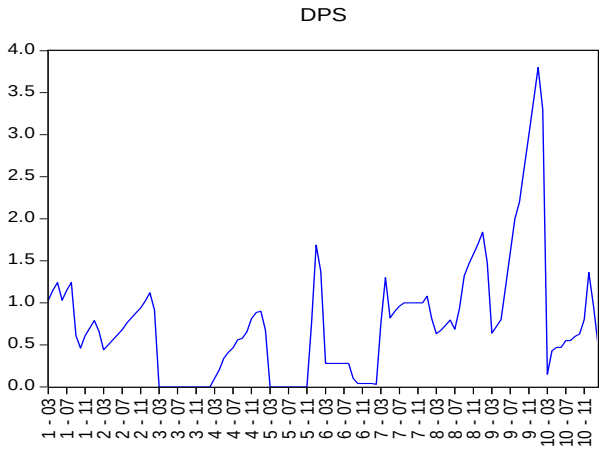
DPS
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1 - 03
1 - 07
1 - 11
2 - 03
2 - 07
2 - 11
3 - 03
3 - 07
3 - 11
4 - 03
4 - 07
4 - 11
5 - 03
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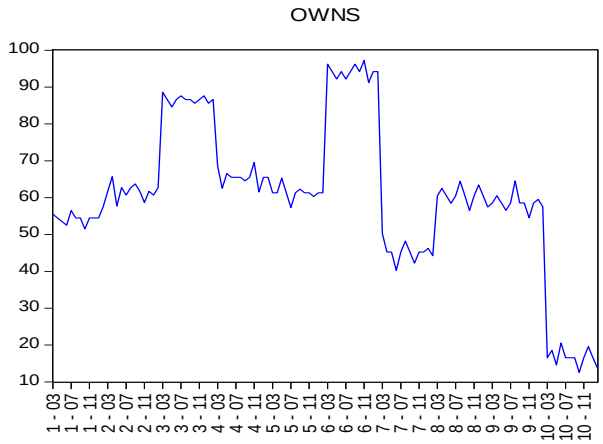
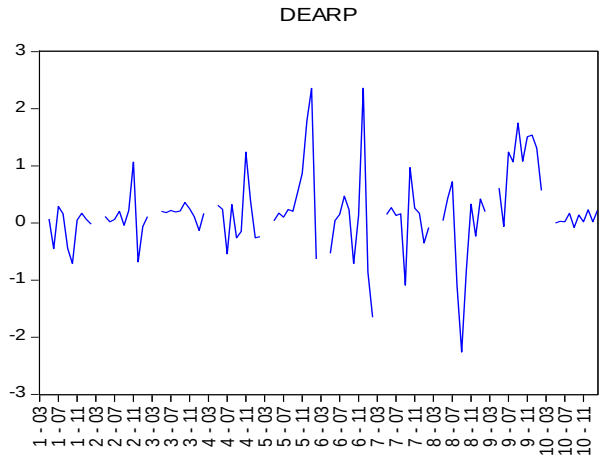
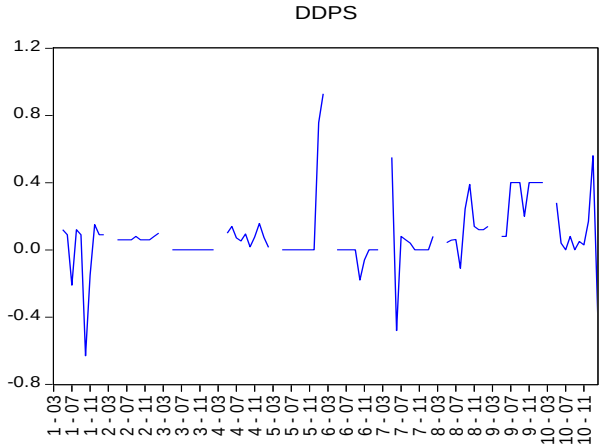


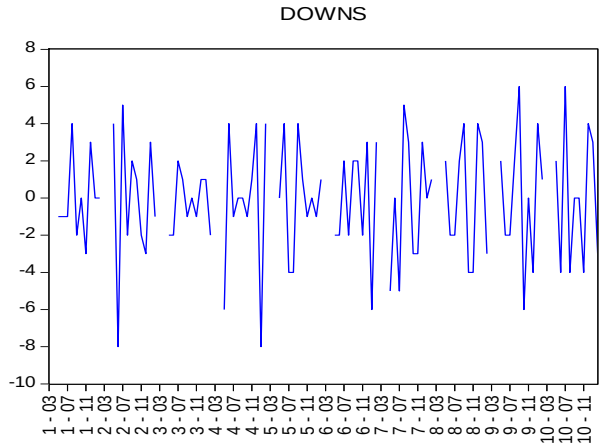
Table III: test of unit root and stationarity after one difference

variable	LLC		IPS	
	Parameter of test	p-value	Parameter of test	p-value
EARP	-3.00112	0.0013	-2.61738	0.0044
DPS	-6.09926	0.0000	-2.71695	0.0033
OWNS	-14.0145	0.0000	-7.25335	0.0000

Now, results show that series became stationary after the first difference







- Cointegration test:

After confirming the stationarity of series, we will use PEDRONI test of cointegration to check the existence of long relationship among variables.

Table IV: PEDRONI test

test	Parameter of test	p-value
within- dimension		
Panel V-statistic	3.970173	0.0000
Panel RHO –statistic	0.747639	0.7727
Panel PP-statistic	1.381285	0.9164
Panel ADF-statistic	-1.843272	0.0326
between- dimension		

Group RHO-statistic	1.229631	0.8906
Group PP-statistic	-3.217756	0.0006
Group ADF-statistic	-3.741984	0.0001

A majority of the seven PEDRONI tests reveal the presence of a single relationship at least between the studied variables recalling 4 tests to reject the null hypothesis that there is no cointegration at the level of significance of 5%[7]. This means acceptance of alternative hypothesis.

- Causality of GRANGER

According to GRANGER, proof of a long-run equilibrium relationship between the set of variables through the test of cointegration requires at least a causal relationship on the standard model, and it must identify those directional relations.

Table V: GRANGER causality

Independent variable	dependent variable		
	Δ EARP	Δ *DPS*	Δ OWNS
EARPΔ	-	4.87876 (0.0293)	0.19889 (0.6565)
DPSΔ	22.0378 (0.0000)	-	0.17395 (0.6775)
OWNSΔ	0.00012 (0.9913)	0.24565 (0.6212)	-

Results of causality showing a single relationship in both directions between each of the (EARP) announcement of profits and (DPS) dividend policy.

IV. EMPIRICAL RESULTS

This paper sought to study the effect of each of the ownership structure and dividend policy on the problem of asymmetric information of a sample of listed firms in the NASDAQ index by adopting cointegration approach of panel data, where it was reached:

- Non stationarity of the study variables (EARP, DPS, OWNS) at level and stationarity after taking the first difference.

- The existence of equilibrium in the long-term relationship between the variables of the announcement of earnings and dividend policy by a majority of the PEDRONI tests.

- The lack of equilibrium in the long-term relationship between the variables of the announcement of earnings EARP and ownership structure OWNS according to all PEDRONI tests

- prove a causal relationship between the distribution of profits policy and the reduction of the problem of asymmetry of information in both directions.

V. CONCLUSION

It can be said that governance has a relatively contributing in alleviating the problem of asymmetric information (in the form of what has been reached from the results through the role of dividend policy in effect on the asymmetry of information) but at the same time, the results show enhanced focus ownership structure for this problem, and it could be argued that the success of governance mechanisms to achieve their goals don't just stop at issuing laws and legislation, but also to the need for good application of those mechanisms, including limiting the influence of some of the parties and their monopoly of information on the institution at the expense of other related parties institution.

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